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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,446	07/18/2003	Un-gyo Jung	Q75479	1015

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SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

LOVEL, KIMBERLY M

ART UNIT PAPER NUMBER

2167

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/621,446	<b>Applicant(s)</b> JUNG, UN-GYO	
	<b>Examiner</b> Kimberly Lovel	<b>Art Unit</b> 2167	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/4/05 &amp; 7/29/05</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-13 are pending.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The information disclosure statements (IDS) submitted on 2/04/2005 and 7/29/2005 were filed after the mailing date of the application on 7/18/2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Claim Objections***

4. Claims 4 and 10 are objected to because of the following informalities:

Claim 4 recites a configuration of a Java class file, wherein the Java class file comprises a constant, a field, and a method, and method information of the method comprises an attribute of a code formed of the machine instruction having the operand in which symbolic reference information is inserted.

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Claim 10 recites a method of precompiling a Java file, the method comprising converting a Java class file or a Java source file into a machine instruction including an operand in which symbolic reference information is inserted.

According to 37 CFR 1.75, *where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order:*

- (1) A preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known,*
- (2) A phrase such as "wherein the improvement comprises," and*
- (3) Those elements, steps, and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.*

The examiner cannot distinguish the difference between the preamble, which bears no patentable weight and the body of the claim.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 4-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**MPEP 2106 IV.B.2.(b)**

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application.

Claim 4 recites a configuration of a Java class file, wherein the Java class file comprises a constant, a field, and a method, and method information of the method comprises an attribute of a code formed of the machine instruction having the operand in which symbolic reference information is inserted.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim consists of a constant, a field and a method. It is unclear as to what kind of tangible output is obtained by these limitations. Since claims 5-6 are dependent on the method of claim 4, they are rejected on the same grounds as claim 4.

Claim 7 recites a method of executing a Java application, the method comprises: (a) precompiling a class file included in a standard class library into an extended class library file including a machine instruction; (b) the extended class library file executing the machine instruction; and (c) executing a Java application file by using at least one of a Just-In-Time (JIT) compiling method and an interpreting method.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim precompiles a class file and executes an application file. It is unclear as to what kind of tangible output is obtained by these limitations. Since claims 8-9 are dependent on the method of claim 7, they are rejected on the same grounds as claim 7.

Claim 10 recites a method of precompiling a Java file, the method comprising converting a Java class file or a Java source file into a machine instruction including an operand in which symbolic reference information is inserted.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim converts a class file into a source file. It is unclear as to what kind of tangible output is obtained by these limitations. Since claim 11 is dependent on the method of claim 10, it is rejected on the same grounds as claim 10.

Claim 12 recites an execution method in a Java Virtual Machine (JVM), the execution method comprising: determining whether method information of a method to be executed includes an attribute of a code formed of a machine instruction having a operand in which symbolic reference information is inserted; and if the method

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information of the method to be executed includes the attribute of the code formed of the machine instruction, linking the symbolic reference information with an address and executing the machine instruction.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim links information and executes machine code. It is unclear as to what kind of tangible output is obtained by these limitations. Since claim 13 is dependent on the method of claim 12, it is rejected on the same grounds as claim 12.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No 6,289,506 to Kwong et al (hereafter Kwong et al).

**Referring to claim 1**, Kwong et al disclose a Java execution device (see abstract) comprising:

an extended class library which includes a class file of a machine code obtained by precompiling a class file included in a standard class library (see column 5, lines 34-67); and

a Java Virtual Machine (JVM) which executes the class file of the machine code class file or an application file included in the extended class library (see column 5, lines 8-33).

**Referring to claim 2**, Kwong et al disclose the Java execution device of claim 1, wherein a machine instruction of the machine code includes an operand in which symbolic reference information is inserted (see column 4, lines 27-38).

**Referring to claim 3**, Kwong et al disclose the Java execution device of claim 2, wherein the Java Virtual Machine (JVM) includes a class linker which converts the symbolic reference information inserted in the operand of the machine instruction into an address (see column 9, lines 51-62).



**Referring to claim 4**, Kwong et al disclose a configuration of a Java class file, wherein the Java class file comprises a constant, a field, and a method, and method information of the method comprises an attribute of a code formed of the machine instruction having the operand in which symbolic reference information is inserted (see column 7, line 62 – column 8, line 18 and column 10, lines 14-30).

**Referring to claim 5**, Kwong et al disclose the configuration of the Java class file of claim 4, wherein the method information further comprises at least one of exception handling information and information used for garbage collection (see column 5, line 34 – column 5, line 6).

**Referring to claim 6**, Kwong et al disclose the configuration of the Java class file of claim 4, wherein the symbolic reference information comprises at least one of information on a constant pool symbol, information on a Java Virtual Machine (JVM)-internal symbol and information on a location of a data block (see column 9, lines 51-62).

**Referring to claim 7**, Kwong et al disclose a method of executing a Java application (see abstract), the method comprises:

(a) precompiling a class file included in a standard class library into an extended class library file including a machine instruction (see column 5, lines 8-67);

(b) the extended class library file executing the machine instruction (see column 5, lines 38-67); and

(c) executing a Java application file by using at least one of a Just-In-Time (JIT) compiling method and an interpreting method (see column 3, lines 37-39).

**Referring to claim 8**, Kwong et al disclose the method of claim 7, wherein step (a) further comprises inserting symbolic reference information into an operand of the machine instruction (see column 4, lines 27-38).

**Referring to claim 9**, Kwong et al disclose the method of claim 8, wherein step (b) further comprises converting the symbolic reference information inserted in the operand of the machine instruction into an address (see column 4, lines 27-38).

**Referring to claim 10**, Kwong et al disclose a method of precompiling a Java file, the method comprising converting a Java class file or a Java source file into a machine instruction including an operand in which symbolic reference information is inserted (see column 4, lines 27-38).

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**Referring to claim 11**, Kwong et al disclose the method of claim 10, wherein the Java class file comprises a standard class file included in a standard Java class library (see column 5, lines 8-67).

**Referring to claim 12**, Kwong et al disclose an execution method in a Java Virtual Machine (JVM) (see abstract), the execution method comprising:

determining whether method information of a method to be executed includes an attribute of a code formed of a machine instruction having a operand in which symbolic reference information is inserted (see column 4, lines 27-38); and

if the method information of the method to be executed includes the attribute of the code formed of the machine instruction, linking the symbolic reference information with an address and executing the machine instruction (see column 9, lines 51-62).

**Referring to claim 13**, Kwong et al disclose the method of claim 12, wherein, if the method information of the method to be executed does not include the attribute of the code formed of the machine instruction, the execution method further comprises one of Just-In-Time (JIT) compiling and interpreting the method (see column 6, lines 47-58).

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent No. 6,324,688 to Brown et al titled Method and Apparatus for Optimizing Execution of Java Programs

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***Contact Information***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly Lovel  
Examiner  
Art Unit 2167

kml  
15 March 2006

  
SHAHID ALAM  
PRIMARY EXAMINER